STATE OF RHODE ISLAND AND PROVIDENCE PLANTATIONS

Department of Environmental Management
DIVISION OF WATER RESOURCES
291 Promenade Street
Providence, R.I. 02908 - 5767

TDD 277-6800

December 5, 1989

Mr. W. F. Burke
Captain, CEC, USN
Director of Public Works
Department of the Navy
Naval Education and Training Center
Newport, RI 02841-5000

Re: Application for Approval to Discharge Treated Water Associated with the Closure of Tanks No. 53 & 56 at NETC (5090 Ser 766/424 E)

Dear Mr. Burke:

The purpose of this letter is to summarize conversations between Angelo Liberti of the Division of Water Resources and Rachel Marino of NETC, regarding the Division's review of the above referenced project.

Before the Division can issue an Order of Approval authorizing the discharge of the water from these tanks, it must be shown that the discharge will not cause the ambient water to violate the salt water aquatic life criteria which are listed in the RI Water Quality Regulations for water pollution control (see enclosure). If a dilution factor can be calculated for the outfall then the discharge limits would be set equal to the criteria multiplied by the dilution factor. Otherwise, the effluent must meet the criteria at the end of the discharge pipe.

In addition Section 6.33 of the RI Regulations for Water Pollution Control, states that "the level of any priority pollutant shall not exceed the 'detection limit' in the ambient water unless the discharger demonstrates to the satisfaction of the Director that a higher concentration will not adversely effect the most sensitive use of the water body". Attached is a list of the priority pollutants and their minimum detection limits.

In order to demonstrate compliance with the water quality regulations, both tanks must be sampled for priority pollutants. Based on the results of these tests, a treatment system must be designed which will reduce all pollutants detected to the criteria outlined above. Prior to issuance of an Order of Approval the treatment system should be tested to ensure its effectiveness. A

full priority pollutant analysis should be performed on the treatment system influent and effluent and the effluent discharged to a holding tank.

A plan must be submitted describing, how the system will be operated and monitored. Of particular concern is what precautions will be taken to ensure that the sediment layer is not disturbed and how efficiently the system will handle oil which may be suspended in the lower depths of the tanks. Sediment from the tanks and any residue from the tank cleaning operation must be collected and properly disposed of, it may not be treated and discharged.

If previous sampling results are available, they may be submitted in place of additional analysis if they were conducted at the minimum detection limits which are enclosed.

If you have any questions concerning this matter feel free to contact Angelo Liberti at 277-6519.

Sincerely,

Carlene B. Newman

Carlene B. Newman
Senior Sanitary Engineer
Permits and Planning Section
Division of Water Resources
Department of Environmental Management

CBN:ASL:al
enclosures

cc: Angelo Liberti, DEM
Cindy Gianfrancesco, DEM, Air & Haz
Rachel Marino, NETC

III. Derivation of Estuarine and Marine Water Guidelines

EPA 1986 Ambient Water Quality Criteria for estuarine and marine waters have been adopted as State water quality guidelines for those pollutants for which they were derived. These guidelines are given in Table III. At this time, no minimum data base guidelines for priority pollutants in marine waters have been derived.

TABLE III

SALTWATER AQUATIC LIFE CRITERIA
EPA 1986

Name	Acute (ug/l)	Chronic (ug/l)
Arsenic III	69	36
Cadmium	43	9.3
Chromium VI	1100	50
Copper	2.9	2.9
Lead	140	5.6
Mercury	2.1	0.025
Nickel	75	8.3
Selenium (Selenite)	410	54
Silver	2.3	-
Zinc	95	86
Aldrin	1.3	-
Dieldrin	0.71	0.0019
Chlordane	0.09	0.004
DDT	0.13	0.001
Endosulfan	0.034	0.0087
Endrin	0.037	0.0023
Heptachlor	0.053	0.0036
Gamma-BHC (Lindane)	0.16	-
Toxaphene	0.21	0.0002
Cyanide	1.0	1.0
PCBs	10	0.03

PARAMETER	RESULT	
CADMIUM	<0.001	PPM
CHROMIUM	<0.005	PPM
COPPER	<0.01	PPM
LEAD	<0.003	PPM
MERCURY	<0.001	PPM
NICKEL	<0.02	PPM
SELENIUM	<0.005	PPM
SILVER	<0.001	PPM
ZINC	<0.02	PPM
TOTAL PHENOLS	<0.05	PPM
ANTIMONY	<0.005	PPM
BERYLLIUM	<0.0002	PPM
THALLIUM	<0.005	PPM
TOTAL EXTRACTABLES (EPA 625)		
N-NITROSODIMETHYLAMINE	<0.5	PPB
BIS(2-CHLOROETHYL) ETHER	<0.5	PPB
1,3-DICHLOROBENZENE	<0.5	PPB
1,4-DICHLOROBENZENE	<0.5	PPB
1,2-DICHLOROBENZENE	<0.5	PPB
BIS(2-CHLOROISOPROPYL) ETH	<0.5	PPB
HEXACHLOROETHANE	<0.5	PPB
N-NITROSODIPROPYLAMINE	<0.5	PPB
NITROBENZENE	<0.5	PPB
ISOPHORONE	<0.5	PPB
BIS(2-CHLOROETHOXY) METHAN	<0.5	PPB
1,2,4-TRICHLOROBENZENE	<0.5	PPB
NAPHTHALENE	<0.5	PPB
HEXACHLOROBUTADIENE	<0.5	PPB
HEXACHLOROCYCLOPENTADIENE	<1	PPB
2-CHLORONAPHTHALENE	<0.5	PPB
ACENAPHTHYLENE	<0.5	PPB

PARAMETER	RESULT	
DIMETHYL PHTHALATE	<0.5	PPB
2,6-DINITROTOLUENE	<0.5	PPB
ACENAPHTHENE	<0.5	PPB
2,4-DINITROTOLUENE	<0 5	PPB
FLUORENE	<0.5	PPB
4-CHLOROPHENYL PHENYL ETHE	<0.5	PPB
DIETHYL PHTHALATE	<0.5	PPB
1,2-DIPHENYLHYDRAZINE	<0.5	PPB
N-NITROSODIPHENYLAMINE	<0.5	PPB
4-BROMOPHENYL PHENYL ETHER	<0.5	PPB
HEXACHLOROBENZENE	<0.5	PPB
PHENANTHRENE	<0.5	PPB
ANTHRACENE	<0.5	PPB
DIBUTYL PHTHALATE	<0.5	PPB
FLUORANTHENE	<0.5	PPB
PYRENE	<0.5	PPB
BENZIDINE	<0.5	PPB
BUTYL BENZYL PHTHALATE	<0.5	PPB
CHRYSENE	<0.5	PPB
BENZO(A)ANTHRACENE	<0.5	PPB
3,3'-DICHLOROBENZIDINE	<0.5	PPB
BIS(2-ETHYLHEXYL) PHTHALAT	<2	PPB
DIOCTYL PHTHALATE	<0.5	PPB
BENZO(B)FLUORANTHENE	<1	PPB
BENZO K FLUORANTHENE	<1	PPB
BENZO(A)PYRENE	<2	PPB
INDENO(1,2,3-CD)PYRENE	<5	PPB
DIBENZO (A,H) ANTHRACENE	<5	PPB
BENZO (G,H,I) PERYLENE	<5	PPB
ABHC	<1	PPB
BBHC	<1	PPB
GBHC	<1	PPB
DBHC	<1	PPB
HEPTACHLOR	<1	PPB
ALDRIN	<5	PPB
HEPTACHLOR EPOXIDE	<1	PPB
ENDOSULFAN I	<5	PPB
DIELDRIN	<0.5	PPB

PARAMETER	RESULT	
4 4'-DDE	<0.5	PPB
ENDRIN	<5	PPB
ENDOSULFAN II	<5	PPB
4,4'-DDD	<0.5	PPB
ENDRIN ALDEHYDE	<50	PPB
4,4'-DDT	<0.5	PPB
ENDOSULFAN SULFATE	<2	PPB
CHLORDANE	<10	PPB
TOXAPHENE	NR	PPB
PCB1016	<100	PPB
PCB1221	<100	PPB
PCB1232	<100	PPB
PCB1242	<100	PPB
PCB1248	<100	PPB
PCB1254	<100	PPB
PCB1260	<100	PPB
PHENOL	<0.5	PPB
2-CHLOROPHENOL	<0.5	PPB
2-NITROPHENOL	<0.5	PPB
2,4-DIMETHYLPHENOL	<0.5	PPB
2,4-DICHLOROPHENOL	<0.5	PPB
4-CHLORO-3-METHYLPHENOL	<0.5	PPB
2,4,6-TRICHLOROPHENOL	<0.5	PPB
2,4-DINITROPHENOL	<1	PPB
4-NITROPHENOL	<1	PPB
2-METHYL-4,6-DINITROPHENOL	<0.5	PPB
PENTACHLOROPHENOL	<0.5	PPB
VOLATILE ORGANIC ANALYSIS (EPA 624/603)		
ACROLEIN	<10	PPB
ACRYLONITRILE	<5	PPB
TRICHLOROFLUOROMETHANE	<1	PPB
2-CHLOROETHYLVINYLETHER	<5	PPB
CHLOROMETHANE	<10	PPB
BROMOMETHANE	<5	PPB
VINYL CHLORIDE	<5	PPB
CHLOROETHANE	<5	PPB
CHLOROFORM	<1	PPB
BROMODICHLOROMETHANE	<1	PPB
DIBROMOCHLOROMETHANE	<1	PPB
BROMOFORM	<1	PPB
1,1,1-TRICHLOROETHANE	<1	PPB
CARBON TETRACHLORIDE	<1	PPB
TRICHLOROETHENE	<1	PPB
1,1,2-TRICHLOROETHANE	<1	PPB
TETRACHLOROETHENE	<1	PPB
1,1,2,2-TETRACHLOROETHANE	<1	PPB
METHYLENE CHLORIDE	<1	PPB
1,1-DICHLOROETHENE	<1	PPB
1,2-DICHLOROETHENE	<1	PPB
1,1-DICHLOROETHANE	<1	PPB
1,2-DICHLOROETHANE	<1	PPB
1,2-DICHLOROPROPANE	<1	PPB
1,3-DICHLOROPROPENE (CIS &	<1	PPB
CHLOROBENZENE	<1	PPB
BENZENE	<1	PPB
TOLUENE	<1	PPB
ETHYLBENZENE	<1	PPB
XYLENE	<2	PPB